

## Unit: Proportional Reasoning, Breakout 3

Grade K-4

	<b>Math Learning Goals</b> <ul style="list-style-type: none"> <li>Participants will articulate the challenges and benefits of descriptive feedback in mathematics.</li> <li>Participants will examine student work and identify where it belongs on the multiplicative thinking continuum.</li> <li>Participants will collaboratively develop instructional strategies for multiplicative thinking based on student needs.</li> </ul>	<b>Materials</b> <ul style="list-style-type: none"> <li>Cards for 4 corners</li> <li>Brookhart BLM</li> <li>Participant journals</li> <li>3-2-1 BLM</li> <li>Video samples of student thinking</li> <li>Davies and Brookhart sample criteria/feedback</li> <li>Responding to Students template</li> </ul>
Minds On...	<b>Small Group Discussion→ Four Corners</b> <ul style="list-style-type: none"> <li>Participants are given the following statement to think about: Giving descriptive feedback in mathematics is the same as giving descriptive feedback in literacy.</li> <li>Participants think about how they feel about that statement and then choose a corner of the room to go to.</li> <li>Corners are labelled strongly agree, agree, disagree and strongly disagree.</li> <li>Give all four groups an opportunity to summarize and share their discussion.</li> </ul>	
Action!	<b>Table groups→ Examining Descriptive Feedback</b> <ul style="list-style-type: none"> <li>Display the criteria for feedback from the plenary: focus, function, comparison, clarity, specific. Participants review chart from Brookhart (BLM) to clarify the meaning of each of these criteria.</li> <li>Participants look at samples of success criteria/descriptive feedback from Brookhart and Davies (displayed on the document camera) and discuss what they notice (all connected to the processes-particularly problem solving and communication).</li> <li>In their journals, participants reflect on the above criteria and feedback: what they like, don't like, and what fits with their thinking, using the 3-2-1 BLM from last year (BLM displayed as discussion prompt).</li> <li>Participants discuss the prompt- "What about content feedback?"</li> </ul> <b>Small Groups→ Feedback Over Time</b> <ul style="list-style-type: none"> <li>Participants are divided into two teams-Team A and Team B. Each team then forms 3 groups of five participants. Each team will have some participants look at Kindergarten video samples and some participants look at grade 2/3 video samples.</li> <li>Participants will look at videos and observe what the students can do, with an emphasis on trends across their 'class'.</li> <li>Participants will think about what their students are able to do in connection to the multiplicative thinking continuum.</li> <li>Participants will then present their 'students' to the other people in the group (K present to 2/3, 2/3 present to K)</li> <li>All group members problem solve together-What am I going to do tomorrow with these students?</li> </ul>	-covered in Plenary, sheet handed out -showed resources and had discussion about this as many points already discussed in 'Minds On'  -Due to lack of laptops, did this at table groups -viewed a K sample and a gr. 2 sample videos of two proportional reasoning tasks
Consolidate Debrief	<b>Whole Group → Sharing</b> <ul style="list-style-type: none"> <li>The Best Thing Today...</li> <li>In their teams, participants share the best thing about examining student work together today, e.g., something they learned about student thinking, something they learned from someone else, an instructional strategy they want to try, etc.</li> </ul>	
	<b>Home Activity or Further Classroom Consolidation</b> <b>Journals-List some of the people you would be able to partner with to try out tasks and to examine student work together. Think about how you can make it happen in the fall. What are some possible barriers and solutions?</b>	

